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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,568

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Shih-Ping Wang

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EXAMINER

CHENG, JACQUELINE

ART UNIT

PAPER NUMBER

3768

MAIL DATE

DELIVERY MODE

10/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,568	Applicant(s) WANG, SHIH-PING	
	Examiner JACQUELINE CHENG	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/21/05 4/9/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. **Figure 2** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. **Claim 11** is objected to because the claim languages of "whereby first and second intermediate volumetric representations". It is not clear if applicant is trying to say "the first and second..." which if the applicant is then there is an antecedent basis problem. The examiner suggests some sort of claim language of --whereby a first and second intermediate volumetric representation which are separately derived from outputs of said first and second array transducers respectively, can be...--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-3, 5, and 6** are rejected under 35 U.S.C. 102(b) as being anticipated by Wild (US 5,333,612). Wild discloses an ultrasonic volumetric breast diagnosis apparatus comprising a reservoir with a conformable acoustically conductive membrane with a first area (fig. 2 element 21) contacting an upward-facing surface of the breast. The reservoir is filled with a coupling fluid which is at a level that the transducer surface comes into substantial acoustic communication with the breast (col. 3 line 18-29). Wild also discloses a position sensing system of a motor which indexes the transducer path (abstract, col. 3 line 49-56) which can be moved in a mechanical fashion in multiple directions of travel with a linear array of transducers (col. 3 line 31-34, col. 4 line 30-35, col. 4 line 62-63).

5. **Claim 1-3, 5-7, 9-13, 15-17, and 20** are rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell (US 5,433,202). Mitchell teaches a probe assembly which is used on a patient lying on her back with a trough-like bag of water resting on her breast. A scanner with 4 linear array transducers, each having a scanning direction that differ by a nonzero angle (see fig. 6a where the transducer arrays are tilted toward each other at a small subvolume), is mechanically positioned over the breast and scans the entire breast volume (col. 14 line 51-68). Each of the transducer arrays also have encoders to sense the position of the transducers (col. 13 line 40-60).

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 8, 14, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell. Mitchell discloses the transducer arrays being tilted to face the breast subvolume (col. 13 line 24-28) however does not explicitly disclose any certain angle that they are tilted. It would be obvious to tilt the transducer arrays to any angle which is needed to face the breast subvolume which can be at least 30 degrees.

8. **Claims 1, 3, and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 5,919,139) in view of Saitoh (US 4,901,729). Lin discloses a probe comprising both an array of ultrasonic transducers and an audio transducers for performing vibrational Doppler ultrasonic imaging. The audio transducer head has an acoustic membrane to facilitated use in the presence of fluids. It is obvious to one skilled in the art to use coupling fluids with the use of a water bag to conform to the shape of the body with ultrasonic probes in order to facilitate better acoustic propagation through the body such as disclosed by Saitoh. It would be obvious to add the waterbag of Saitoh to Lin to further the utility of Lin to have better acoustic transmission.

Conclusion

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACQUELINE CHENG whose telephone number is (571)272-5596. The examiner can normally be reached on M-F 10:00-6:30.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art Unit
3737

JC